New HIV infections

Definitions
Number of people who get HIV in the reporting period per 1,000 people not infected with the virus.

Numerator
Number of people who get HIV infection during the reporting period.

Denominator
Total number of uninfected inhabitants.

Measuring unit
X per 1,000 uninfected or people at risk.

Considerations for indicator quality
Methods for monitoring incidence (direct or indirect) can vary depending on the epidemic environment. Direct measurement at the population level is preferable but is often difficult to obtain. As a result, most countries rely on indirect measurements or triangulate direct and indirect methods.

Strategies to directly quantify HIV incidence include longitudinal monitoring and repeated testing among people without HIV infection and estimates using laboratory tests on recent infections and clinical data on the population. Longitudinal monitoring is often expensive and difficult to perform at the population level. Laboratory tests on individuals to determine the antiquity level of infections also pose difficulties regarding their cost and complexity, since a nationally representative population-based survey is generally required to obtain estimates.

Indirect methods most of the times are based on estimates built on mathematical modeling tools, such as the AIDS Epidemic Model in Spectrum software and. Those models can incorporate population and geographic HIV surveys, surveillance, case reporting, mortality, and program and clinical data. The models are based on assumptions regarding risk behaviors, HIV transmission, and survival with and without antiretroviral treatment. In some cases, countries may wish to triangulate such data with other estimation sources over the number of people who become infected, including serial population estimates of HIV prevalence or estimates of HIV prevalence among recently exposed young populations.

Interpretation implications
Case-based surveillance systems that capture new people who get HIV should not be used as a direct source for estimating the number of people who get HIV in the reporting period. Due to delays in information processes or under diagnosis situations, these new cases may not reflect the real rate of people contracting the infection. That information may be useful, however, for triangulation and validation purposes, especially when combined with tests aimed at determining how recent is the infection.

Incidence estimates and their change over time are the benchmark for monitoring the impact of programs. However, even in high-risk populations, it is a relatively rare event for new HIV infections to occur, so the precision (uncertainty) of these estimates should be included in the reports using indices on HIV incidence to monitor the impact of programs, especially when disaggregated by sex and age and for key population groups or in specific geographic areas. Precautions regarding the representativeness of surveys should also be taken when using population studies.

Context indicator
The overarching goal of the global AIDS response is to reduce the number of people who get HIV infection to less than 200,000 people by 2030. Monitoring the rate of people who get the infection over time serves to quantify progress in prevention programs towards this goal.

ODS framework

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<th>EWEC-LAC framework</th>
<th>Dimension</th>
<th>Monitoring framework</th>
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<td>Impact</td>
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<td>Product</td>
<td>Place of residence (urban / rural, or geographic location)</td>
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Preferred data source
a) Household surveys in open population or of key populations that include HIV tests.
b) Statistical modeling with the UNAIDS SPECTRUM program.

Alternative data sources
- Country epidemiological surveillance systems (surveillance in key populations)

Inter-agency group estimates
- UNAIDS Reference Group on Estimates, Modelling and Projections

Global monitoring frameworks
- 100 Core Indicators, WHO.
- Global Strategy for Women's, Children's and Adolescents' Health.
| For more information                          | • Strategic Information Guides on HIV in the health sector.  
|                                             | • Software Spectrum, Glastonbury (CT): Avenir Health; 2016. |
| References                                  | • Indicator’s Registry UNAIDS [http://www.indicatorregistry.org/es/indicator/incidencia-del-vih](http://www.indicatorregistry.org/es/indicator/incidencia-del-vih) |